Queens, workers, and males alike are caught by the chaffinch, which usually, with a peck from its beak, first destroys the tail, dropping the latter to the ground, eats out the contents of the abdomen, then breaks into the thorax, and finally drops the hollow remains of the insect to the ground.

In 1912 young birds of a late brood accompanied their parents to two trees in Hertfordshire, but showed fear of the bees, and would eat them only when caught and offered by their parents.

The blue tit is said to treat hive-bees in much the same manner (Cheshire, "Bees and Bee-keeping," vol. ii., pp. 578–79, 1886).

The shrike, or "butcher-bird," pierces queen humble-bees through the side of the thorax, after catching them on the wing in its beak, apparently with the view of causing general paralysis before impalation upon the thorn during formation of the "larder."

Toads are known to feed voraciously upon hive-bees, swallowing them whole, and it is at present very doubtful if any of the birds mentioned are affected by the stings of bees; but the method of avoidance of being stung cannot be completely overlooked in the cases described for birds.

The cuckoo is especially addicted to feeding upon caterpillars provided with irritant hairs, and with this we have a rough series showing the downfall of distasteful qualities or defensive weapons in face of selective adaptation in enemies, which for generations must have been kept at bay by such protection in their would-be victims.

The currant-moth larva, then, has merely been eaten by the thrush, and possibly by the other birds mentioned by Dr. Collinge (save for the cuckoo, which is now adapted to eating distastful insects), when the stress of having to feed a family has made such a practice a necessity. In the case of the song-thrush and its young, the stress has disappeared after a period of seven days with the arrival on the scene of more palatable food.

The presence of parasites in the caterpillars left after this period can scarcely be more than a coincidence, and there is no proof that the caterpillars which the thrushes ate were not also parasitised. This explanation would seem more acceptable than Dr. Collinge's paradox based on the assumption that the larvæ of the currant moth are not unpalatable to the majority of birds in ordinary times.

Edward R. Speyer.

New College, Oxford, July 29.

Luminous Worms.

The paper by Dr. Gilchrist published in the Transactions of the Royal Society of South Africa, and referred to in Nature of July 31, p. 433, should be of service in reviving interest in this country in the question: Do our indigenous Oligochæts display luminosity? So long ago as 1893 I directed attention to the subject in these columns (Nature, vol. xlvii., p. 462), and in more recent years I have endeavoured to elicit information of a trustworthy nature on the question with but little success. The following worms which have been reported as exhibiting luminosity are common in this country:—Brandling (*Allolobophora* (*Eisenia*) *foetida*), *Enchytraeus albidus*, and *Henlea nasuta*. *Microscolex phosphoreus* or an ally is an importation Another worm, which is large, common, and easily observed, is Octolasium. It has a steel-blue body, clay-coloured girdle, and yellow tail filled with fat cells which are often attended by gregarines. Various questions await solution. Of what service, for instance, can luminosity be to creatures which have no eyes? *Helodrilus oculatus* is the only Lumbricid found in England possessing organs of vision, and these are rudimentary. They have been reported by Eisen as occurring in Sparganophilus also, two species of which, as I recently showed, occur in this country. Is it possible that light can influence Annelids in some way, and so facilitate sexual processes? It was affirmed by Flaugergues in 1771 that luminosity disappears in certain cases after copulation, and if that observation is trustworthy it is most suggestive. Dr. Gilchrist, in his paper on luminosity referred to above, suggests that luminosity is a protective device so far as South African worms are concerned, and his argument is very plausible. I believe that the yellow extremities of Octolasium serve the purpose of dazzling underground foes by emitting light.

The reports made years ago to the British Association of luminous worms found in Liverpool and in the bogs of Ireland have never led to any satisfactory issue. As I am now writing my monograph of British Oligochæts for the Ray Society, it would greatly interest and help me to receive living specimens of worms which betray phosphorescent properties, or any well-authenticated facts relating to the subject which could be used for purposes of publication or investigation.

Hilderic Friend.

"Cathay," Solihull, July 21.

Protective Coloration of Birds and Eggs.

While collecting information on the use of colour-protection among birds, my attention has been directed to what appears to be a very interesting generalisation, viz. that among birds which nest on the moors, sea-shores, and similar open places, (1) those which have the habit of remaining on their nests when danger threatens generally wear camouflaged uniforms, but their eggs seldom show any signs of colour-protection; while (2) those which are very shy and leave their eggs readily are generally conspicuously coloured, but their eggs are usually camouflaged.

Amongst the first class are capercailzie, nightjar, partridge, wild duck, and bittern; and amongst the shy ones with camouflaged eggs are lapwing, curlew, oyster-catcher, terns, ringed plover, and golden plover.

I do not remember to have seen this point mentioned explicitly in any book or paper, and should be greatly obliged to any reader of Nature interested in birds who would give me any further information on the subject.

Geo. Grace.

The Museum, Keighley.

Teeth of Sea-Otter.

It is commonly stated that the sea-otter (*Latax lutris*) differs from other carnivora in having only two incisor teeth in the lower jaw. Through the kindness of an old Etonian, Mr. Ernest Edwards, our school museum has become possessed of a fine stuffed head of this animal. I was surprised, however, to note that this specimen has three incisors on both sides. In the books of reference to which I have access I can find no such case recorded, and I shall be grateful if any of your readers can give me information on the point.

M. D. Hill.

Eton College, Windsor, July 29.

The Late Sir Edward Stirling.

In Nature of April 3, p. 87, the late Sir Edward Stirling is referred to as director of the South Australian Museum. Sir Edward resigned from the directorate in 1913, and was succeeded by Mr. Edgar R.

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Waite. On relinquishing control in the museum Sir Edward was appointed honorary curator in ethnology, which position he filled to the time of his death.

L. M. HARWOOD,
Acting General Secretary.

Public Library, Museum, and Art Gallery
of South Australia, Adelaide, South
Australia, June 4.

LABOUR AND THE HIGHER VALUES.

AFTER the weary and fruitless efforts of the past century by those engaged in enlarging the boundaries of truth to educate their masters to an appreciation of the national importance of such higher values, it is a relief to turn to their frank espousal by the representatives and spokesmen of Labour in this country and in America. To those for whom Labour stands for everything that is evil in the best of all possible worlds and who are content to absorb their judgments on contemporaneous problems with their breakfast, such a view will be bizarre. But scientific men who are accustomed to deal with facts, and form their conclusions therefrom, cannot fail to be interested in the very marked growth of appreciation in the humanitarian value of their work which has occurred in the ranks of organised Labour.

At its recent Atlantic City convention, as announced in last week's issue of NATURE, the American Federation of Labour resolved adequately and generously to support the activities of the Federal Government in pursuing, strengthening, and extending a broad programme of scientific and technical research as being of major importance to the national welfare. The resolution was based on five grounds: That the work forms the fundamental basis of all modern industry; that the increased productivity and well-being of the whole population ensuing therefrom are of far greater value than the cost of the work; that, after all possible methods of re-adjustment, there is a limit to the increase of the average standard of living in the community, which can be raised only by research and the utilisation of research in industry; that it is necessary for the solution of many of the most pressing problems immediately confronting the Governments; and, lastly, that the war has brought home to all the nations engaged in it the overwhelming importance of science and technology in war or peace.

In this country the Labour Party in its Report on Reconstruction last year, entitled "Labour and the New Social Order," insisted on greatly increased public provision being made for scientific investigation and original research in every branch of knowledge, and for the promotion of music, literature, and the fine arts, upon which any real development of civilisation depends. It is humiliating also to note that it should have been a deputation from the Education Committee of the Labour Party who found it necessary to point out to the President of the Board of Education the grave injury done to the cause of education by the exclusion from the older universities of men without money but with brains, and the welcome apparently accorded to men with money but without brains.

So far as the evidence goes, the causes of scientific education and scientific research at least seem to stand to profit enormously by the advent of a Labour Government. The view, of course, may be taken that this is the traditional lip-service to the higher values paid by all political aspirants for power alike, though the political expediency of expressing such sentiments in this country is not obvious. At least, if it be mere vote-hunting demagogy, it is of a startling and original kind!

Labour may be trusted to make one important contribution to government which has been too long lacking, in that it cannot fail to realise the fundamental importance of the productive and creative elements in the community. It is not likely to make the mistake of putting the cart before the horse, an amusing illustration of which is our habit of speaking of commerce and industry. One may expect that if it intends to foster scientific research its efforts, however mistaken, will not be open to the interpretation that the resources of the State will be used for the exploitation rather than the encouragement of the research worker.

Sums, by previous standards munificent, have recently been voted by Parliament for fostering scientific research. What scientific investigators have so far mainly got is a set of rules and conditions that some lawyer had drawn up presumably, by which any investigator who is so hard-up as to accept money from this source puts himself outside the law with regard to any commercial rights that may ensue from his work and vests them in the Government. Willing as scientific men may be that their brains should be exploited for the benefit of the community, it must be remembered that the community is a vague term comprising drones as well as workers. Those to whom the destinies of civilisation have been entrusted during the past century have not shown themselves either very generous or very intelligent in their appreciation of the higher values which make for national well-being and prosperity. Under them, slums and millionaires have been the chief output of creative science, which certainly could not be in worse hands under Labour. The intense appreciation of the higher values that is growing up among the leaders of Labour is perhaps the most hopeful sign of the times, and the education of the workers into the real aims, uses, and aspirations of science now, more than ever, calls for the co-operation and support of scientific men.

F. SODDY.

AUSTRALIAN RAINFALL.[1]

IN the continent of Australia rainfall is by far the most important meteorological element to the agriculturist, there being large tracts of country where the annual precipitation is barely

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[1] "The Australian Environment (especially as Controlled by Rainfall)." By Dr. Griffith Taylor. Pp. 188+plates. (Melbourne, 1918.)

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